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PUBLIC SEWAGE TREATMENT PLANT CONSTRUCTION - 1953

Public Health Service
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Springfield VA 22151

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

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Problems of water supply were sharply emphasized in many areas of the country during 1953, a year of extended and widespread droughts. Because of lessened stream flow, the normal ability of the water courses to carry off and assimilate wastes from cities and industries was greatly reduced. Pollution problems were correspondingly aggravated. The increased concentration of pollution in surface streams placed unprecedented strain upon municipal water treatment systems. Difficulties encountered in transforming these heavily polluted supplies into safe drinking water were reflected in frequent and vehement complaints as to the taste, odor, and color of the water flowing from household faucets.

The many critical situations reported over the Nation have emphasized the urgent need for preventing pollution of available supplies, thus permitting maximum use. Natural replenishment in each watershed area assures a relatively constant total supply. However, if this constant amount is to meet the increasing demands of population and industrial growth, if it is to serve more purposes, more people, and more industry, it must be kept suitable for use over and over again. For most purposes, re-use is possible only after removal of impurities added by the previous user. Removal of such impurities through treatment is the function of municipal and industrial waste treatment facilities.

This report on the construction of public sewage treatment plants for the calendar year 1953 supplements and brings up to date the information contained in the 1952 construction report (1). It indicates the progress made by municipalities during 1953 in providing the sewage treatment facilities necessary to prevent pollution of water resources on which downstream water users depend.

Basic data on water use and population and industrial growth, contained in Tables IV and V of the 1952 report, are not repeated here.

Sewage Treatment Plant Construction - 1953

Contracts amounting to $191 million for 615 sewage treatment plants, including in many places interceptor sewers, were awarded by the Nation's municipalities* during the year. The cost of 329 new plants was $96 million. The remaining $95 million provided for additions, enlargements or replacements for 286 existing plants.

Table I shows the number and type of construction projects for which contracts were awarded in 1953, in each of the Nation's 15 major drainage basin areas. Comparison with the 1952 record reveals that there were marked increases in four basins--Tennessee, Colorado, Great Basin, and Southeast. There was a substantial reduction in only one basin, the Northeast, where several large contracts for completion of the Boston area program had accounted for almost half of the previous year's total.

Construction Record 1948-53 Compared to Needs

It is estimated that expenditures of approximately $200 million per year for construction of municipal sewage treatment works (including interceptors) are required to keep pace with currently developing needs due to increases in population and plant obsolescence. The 1953 rate of expenditure (191 million) is just approaching this sustaining level. For all except one of the five previous years (1950) the rate was considerably lower. Thus, the tremendous backlog of sewage treatment plant needs that accumulated during and immediately following the war years when this type of construction was at a virtual standstill has remained practically untouched. Surveys made in 1950 (2) indicated that this backlog amounted to between $2-1/2 and $3 billion worth of construction.

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* Includes incorporated or unincorporated municipalities; other legal bodies such as sanitary districts, counties, towns; significant institutions, resorts, recreational centers, or other population centers, and industries discharging sanitary sewage wastes directly to watercourses. With the exception of facilities constructed at Federal installations, and 12 projects receiving Federal aid under the Defense Housing and Community Facilities Act (P. L. 139, 82nd Cong.), contracts represent expenditure of local funds.

TABLE I

SEWAGE TREATMENT PLANT CONSTRUCTION - CONTRACT AWARDS 1953

BY DRAINAGE BASIN & TYPE OF CONSTRUCTION*

DRAINAGE BASIN	TOTAL		NEW PLANTS		ADDITIONS, ENLARGEMENTS, REPLACEMENTS, ETC.	
	NO.	COST ($)	NO.	COST ($)	NO.	COST ($)
United States	615	190,919,708	329	96,118,267	286	94,801,441
Northeast	26	4,949,848	8	1,436,695	18	3,513,153
North Atlantic	73	43,814,921	29	12,194,188	44	31,620,733
Southeast	62	35,604,309	46	29,881,790	16	5,722,519
Tennessee	5	7,519,897	4	5,854,295	1	1,665,602
Ohio	61	24,919,905	30	9,971,295	31	14,948,610
Lake Erie	11	5,063,607	4	420,282	7	4,623,325
Western Great Lakes	23	11,148,140	14	8,485,368	9	2,662,772
Upper Miss.	73	12,493,008	44	5,372,409	29	7,120,599
Missouri	51	4,907,921	35	3,393,649	16	1,594,272
Southwest-Lower Mississippi	52	8,365,148	34	4,819,508	18	3,545,640
Western Gulf	45	11,084,394	22	5,795,459	23	5,288,935
Colorado	10	766,895	9	726,895	1	40,000
Great Basin	6	1,245,016	5	1,029,066	2	215,950
California	75	12,764,029	22	4,075,771	53	8,688,258
Pacific Northwest	41	6,212,670	23	2,661,597	18	3,551,073

* Contracts are for sewage treatment plant and/or interceptor sewer construction.

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A 10-year construction program designed to eliminate the backlog and keep abreast of current needs would require an estimated annual expenditure of from $450 million to $500 million ($200 million for current requirements and $250 - $300 million for backlog).

TABLE II*

SEWAGE TREATMENT PLANT CONSTRUCTION CONTRACT AWARDS**

1948-1953

YEAR	CONTRACT AWARD VALUE	
	CURRENT DOLLARS (Millions)	1950 DOLLARS*** (Millions)
1915-1950 ave.		141
1948	158	175
1949	180	194
1950	203	203
1951	177	168
1952	137	123
1953	191	162

* Based on records maintained by U. S. Department of Commerce, Facilities and Construction Bureau, for period 1915-51.

** Construction is for sewage treatment plants and interceptor sewers.

*** Engineering News Record Construction Cost Index used to translate current dollar value to 1950 dollars.

To provide a basis for comparison of the actual construction accomplished (removing the variable of cost fluctuation), expenditures for each of the past six years have been adjusted to 1950 dollars, by the Engineering News-Record Construction Index, in the last column of Table II. On this basis, the actual amount of construction in 1953 was 32 per cent greater than that in 1952, but ranged from 4 per cent to 20 per cent less than during any of the other years since 1948. It exceeded the long-term average (1915-50) by only about 15 per cent.

Analysis of 1953 Construction Record

In Table III, construction data are distributed according to the size of the population groups to be served by the facilities, and the type of construction (new plants, or improvements to existing

TABLE III

SEWAGE TREATMENT PLANT CONSTRUCTION CONTRACT AWARDS IN 1953
BY POPULATION SIZE & TYPE OF CONSTRUCTION
(All costs in thousands of $)

POPULATION RANGE	TOTAL				NEW PLANTS				ADDITIONS, ENLARGEMENTS, REPLACEMENTS, ETC.			
	FOR RANGE		CUMULATIVE %		FOR RANGE		CUMULATIVE %		FOR RANGE		CUMULATIVE %	
	NO.	COST	NO.%	COST %	NO.	COST	NO.%	COST %	NO.	COST	NO.%	COST %
Total	615	190,920			329	96,118			286	94,802		
Less than 2,500	275	16,441	45	9	208	13,026	63	14	67	3,415	23	4
2,500-5,000	76	11,737	57	15	40	7,654	75	22	36	3,683	36	8
5,000-10,000	78	15,797	70	23	32	6,348	85	31	46	7,449	52	15
10,000-25,000	70	22,617	81	35	26	14,188	94	45	42	8,429	67	24
25,000-50,000	20	12,747	85	42	6	7,121	95	53	14	5,626	72	30
50,000-100,000	24	28,740	88	57	7	13,398	98	67	17	15,342	78	47
100,000-250,000	31	45,383	93	80	7	32,144	100	100	24	13,239	86	61
250,000-500,000	10	5,842	95	83	0	0	100	100	10	5,842	90	67
500,000-1,000,000	7	5,998	96	87	0	0	100	100	7	5,998	92	73
1,000,000 or over	24	25,618	100	100	1	39	100	100	23	25,579	100	100

plants). Following the general pattern evident in 1952, projects built by municipalities of less than 25,000 people made up 81 per cent of the total number. However, the cost of these projects amounted to only 35 per cent of the total expenditures. These smaller communities accounted for 94 per cent of the new plants and 67 per cent of the additions, enlargements, and replacements, although they spent only 45 per cent and 24 per cent respectively of the totals for the two types of construction.

In 1953, total expenditures were almost equally divided between new plants and additions, enlargements, or replacements, in contrast to an expenditure ratio of 4 to 3 in 1952. Likewise, in number of projects the ratio became more nearly equal -- 54-46 in 1953 as compared to 60-40 in 1952.

This trend results not only from population growth and increasing urbanization, but from the fact that each year more of the treatment plants constructed in the 20s and 30s are reaching the end of their usefulness and must be replaced.

The basic data upon which this report is based were obtained from:

(a) F. W. Dodge Corporation daily reports on sewage treatment plant and interceptor sewer contract awards in 37 eastern States.

(b) Construction news periodicals, such as the Daily Pacific Builder, Daily Journal (Denver), Rocky Mountain Construction News Bulletin, Southwest Builder and Contractor.

The data from these sources are checked with information at the Building Materials Division, National Production Authority, U. S. Department of Commerce. A list of projects for each State is then compiled and sent to the State water pollution control authority for examination, correction and return.

References

(1) Public Sewage Treatment Plant Construction 1952, PHS Pub. 291

(2) Water Pollution in the United States, PHS Pub. 64 (1951)

(3) Summary Reports on Water Pollution for the 15 Major Drainage Basins:

California Drainage Basin, PHS Pub. 86
Colorado River Drainage Basin, PHS Pub. 110
Great Basin Drainage Basin, PHS Pub. 82
Lake Erie Drainage Basin, PHS Pub. 119
Missouri River Drainage Basin, PHS Pub. 78
New England Drainage Basin, PHS Pub. 88
North Atlantic Drainage Basins, PHS Pub. 111
Ohio River Drainage Basin, PHS Pub. 136
Pacific Northwest Drainage Basin, PHS Pub. 87
Southeast Drainage Basins, PHS Pub. 153
Southwest-Lower Mississippi Drainage Basins, PHS Pub. 160
Tennessee River Drainage Basin, PHS Pub. 69
Upper Mississippi Drainage Basins, PHS Pub. 150
Western Great Lakes Drainage Basins, PHS Pub. 143
Western Gulf Drainage Basins, PHS Pub. 92

(4) Popular Digests of Summary Reports for 9 Basins:

Clean Water in the Arkansas-White-Red and Lower Mississippi Valleys, PHS Pub. 252
From the Hudson to the Potomac - Clean Waters, PHS Pub. 202
Clean Water in the Missouri, PHS Pub. 151
Clean Water for New England, PHS Pub. 199
Cleaner Water for the Ohio, PHS Pub. 203
Clean Water for the Pacific Northwest, PHS Pub. 201
Clean Water for the South, PHS Pub. 259
Clean Water for the Tennessee, PHS Pub. 271
Clean Water for the Western Great Lakes Region, PHS Pub. 267

APPENDIX

SEWAGE TREATMENT PLANT CONSTRUCTION CONTRACTS AWARDED DURING THE YEAR 1953

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Alabama		
Jefferson Co. Village Cr. Plt.	New Plant	$2,069,737
Citronelle	New Plant	22,000
Mobile	Enlargement	322,263
Ozark	New Plant	415,426
Prichard	New Plant	297,319
Arizona		
Silver Bell	New Plant	18,000
San Manuel	New Plant	140,450
Yuma, Test Station	New Plant	57,725
Arkansas		
Alexander, McRae Memorial Sanatorium	New Plant	38,241
Arkadelphia	New Plant	132,230
Berryville	New Plant	25,748
Cabot	New Plant	50,000
Dumas	Replacement	87,892
Green Forest	New Plant	22,132
Murfreesboro	New Plant	50,000
California		
Arvin San. Dist.	Addition	153,692
Alisal Sanitary District	Enlargement	302,020
Alpine San. Dist.	New Plant	28,000
Barstow Camp Irwin	New Plant	204,094
Burlingame	Interceptors & Outfall	109,353
Centerville	Enlargement	86,869
Carmel	Enlargement	66,200
Camp Pendleton, Sewage Treatment Plant No. 3	Enlargement	188,670
	Enlargement	92,904
	Enlargement	111,150
	New Plant	171.600

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
California (Cont.)		
Cayucos San. Dist.	Interceptor & Pump Sta.	$ 43,100
El Cerrito, Stege Sanitary Dist.	New Plant	104,830
Edwards Air Force Base	New Plant	62,000
Ferndale	New Plant	87,476
Fresno	Enlargement	163,996
	Improvement	125,038
Folsom State Prison	Enlargement	77,887
Hayward	Outfall	83,817
Ivanhoe	New Plant	44,850
InyoKern, Armitage Field Naval Ordnance Test Sta.	Improvement	15,950
Imperial Beach	Interceptor	13,890
Julian	New Plant	48,000
Los Angeles City Fulton Ave.	Interceptor	43,005
Haskell Ave.	Interceptor	149,515
Laurel Canyon Blvd.	Interceptor	224,975
Osborne Street	Interceptor	46,589
Pierce Street	Interceptor	119,909
Sutter to Canterbury Pierce Street	Interceptor	18,596
Canterbury to Woodman Terminal Island Plt.	Outfall	126,900
Los Angeles Co. San. District No. 2, Joint Outfall "C"	Interceptor	78,993
Joint Outfall "B"	Outfall	881,005
Part 1 at Joint Disposal Plant	Interceptor	51,425
District No. 5	New Plant	39,160
District No. 14 Lancaster Plant	Enlargement	144,557
District No. 21 Section 2A	Outfall	139,740
Section 2B	Outfall	174,824

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
California (Cont.)		
Lakeport	Improvement	---
Muroc, Edwards Air Force Base	New Plant	$223,477
Morro Bay San. Dist.	New Plant	173,000
	Interceptor	49,897
Midway City	Interceptor	146,636
Modesto	Enlargement	16,750
	Additions	164,300
North Sacramento	Interceptor	248,840
Navaro	New Plant	2,000
Oroloma Sanitary Dist.	Additions	651,551
Orange Co. San. Dists. Nos. 1,2, 3,5,6,7, and 11	New Plant	874,875
Nos. 1,2,3,6, 7 and 11	Interceptor	890,000
	Outfall Sewer	328,985
Nos. 1,2,6, and 7 - Ellis Ave.	Outfall	190,031
Nos. 1,2,5,6, and 7 - Newport Beach Trunk	Outfall	101,755
Nos. 5 and 6, Units 2 and 3 - Newport Beach	Outfall	124,439
Pismo Beach	New Plant	212,712
Paso Robles	New Plant	201,736
Paso Robles, School for Boys	New Plant	39,000
Porterville	New Plant	364,845
Patterson	Interceptor	8,830
Parks Air Force Base	Improvement	31,267
Petaluma	Enlargement	41,867
	Enlargement	186,403
Riverside	Enlargement	144,350
Ridgecrest San. Dist.	New Plant	274,495
San Mateo, Linda Mar Subdivision	New Plant	138,000
San Pablo San. Dist.	New Plant	610,579
Santa Barbara County Hospital	Enlargements	4,000
San Luis Obispo	Improvements	2,000
South Laguna San. Dist.	Interceptor	712,577
Sacramento	Outfall Sewer	$ 712,000
San Francisco	Improvement	1,590
Eldorado, So. Tahoe Public Utility District	New Plant	180,000
Solvang	New Plant	37,982
Tehachapi	Additions	6,110
Tujunga, Verdugo Hills High School	New Plant	12,285
Tahoe City Public Utility	New Plant	60,000
Vacaville, Calif. Medical Facility	New Plant	184,000
Willits	Enlargement	52,554
Yreka	New Plant	95,300
Colorado		
Arvada	Addition	189,657
Cortez San.Dist.	New Plant	74,880
Flagler	New Plant	39,500
Leadville	New Plant	63,896
Littleton	Improvement	14,275
Rangely	New Plant	28,596
Connecticut		
Greenwich & New Canaan, Merritt Parkway	New Plant	77,800
Milford	Outfall Sewers	198,810
Delaware		
DuPont Country Club	Outfall Ext.	39,695
Delmar	Outfall	85,840
New Castle Co.	Interceptor	136,532
Red Clay Creek, Part of Wilmington-New Castle Co. Trunk Sewer Proj.	Interceptor	91,142
District of Columbia		
Washington	Addition	247,800
	Addition	1,610,820

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Florida		
Broward Estates Sewer District	New Plant	$ 30,000
Clearwater-Skycrest Area	New Plant	80,000
Duval Co., Highlands Sewer Dist.	New Plant	65,000
Elem.School #82	New Plant	12,500
Elem.School #83	New Plant	12,500
Jewish Country Club	New Plant	12,000
Miramar Stores	New Plant	3,500
North Biscayne Bay Motel	New Plant	60,000
Dade County, Belmont Park	New Plant	40,000
Duval Co., Brookview Sewer District	New Plant	45,000
Cecil Field, Naval Project	Enlargement	72,560
Buckeye Cellulose Corp.	New Plant	94,120
Fairlawn, School	Additions	10,000
Graceville	New Plant	60,000
Duval Co., Hogan Heights	New Plant	73,000
Homestead-Leisure City Sewer Dist.	New Plant	75,527
Jacksonville, Georgia Industrial Realty Co.	New Plant	10,000
Jacksonville Jr. College	New Plant	20,000
Jacksonville, State Farm Mutual Ins.Co.	New Plant	25,000
Lee Co., Colin English School	Improvements	9,400
Miami	New Plant	22,056,795
Biscayne Key	New Plant	76,000
Eastern Part of Miami Airport	New Plant	200,000
Chatlos Motel	New Plant	60,000
Madison	New Plant	200,000
Orlando, Pinehills Sewer District	New Plant	40,000
Orange Co., Harlan Heights Labor Camp	New Plant	10,000
Picardy Village	New Plant	15,500
Pensacola, Naval Air Station	New Plant	$ 151,000
Pensacola	Enlargement	408,265
St. John County, Ponce DeLeon Raceway	New Plant	22,000
St. Petersburg, Jungle Country Club	New Plant	100,000
St. Cloud	New Plant	417,000
St. Petersburg	New Plant & Enlargement	944,575
Georgia		
Atlanta	Improvements	371,117
Cairo	Enlargement	165,142
Glennville	New Plant	250,000
Warner Robins	New Plant	365,461
Idaho		
Butte Co., owned by Atomic Energy Comm.	New Plant	57,935
Craigmont	New Plant	124,000
Garden City	New Plant	119,840
Mountain Home	Additions	100,000
	Improvement	16,102
Illinois		
Breese	Addition	5,000
Carpentersville	New Plant	50,000
Decatur, S. D.	Interceptor	3,062,481
Elkville	Enlargement	19,271
East Peoria, Caterpillar Tractor Co. proving Grounds	Replacement	20,000
Frankfort, Convent	New Plant	25,000
Gibson City	New Plant	188,239
Vicinity of Hanna City, owned by U.S. Corps of Engineers	New Plant	46,601
Hinsdale San.Dist.	Enlargement	80,000
Lebanon	Enlargement	74,523
LaGrange, Wolf Road Trailer Court	New Plant	15,000
66 Drive-In	New Plant	20,000
Springfield Inn Trailer Court	New Plant	12,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Illinois (Cont.)		
Macon	New Plant	$ 36,418
Mokenai, Franciscan Sisters of the Sacred Heart	New Plant	100,000
Massac County, Fort Massac State Park	New Plant	17,951
Maryville	New Plant	80,000
McCook, Carlsons Trailer Court	New Plant	20,000
Marine	New Plant	62,500
Meadowdale, owned by Besinger & Assoc.	New Plant	100,000
Mt. Carmel	New Plant	242,160
Mundelein	Enlargement	80,000
McCook, Consumers Company	Improvement	8,000
Mt. Morris	Enlargement	25,000
New Lennox, High School	New Plant	20,000
Orland Park High School	New Plant	---
Pana	New Plant	242,400
Red Bud	Enlargement	25,000
Rantoul	New Plant & Interceptor	624,612
St. Clair Shores	Interceptor	65,583
Tinley Park State Hospital	New Plant	540,150
Urbana, Univ. of Indiana Airport	New Plant	---
Wauconda	Enlargement	150,000
Indiana		
Angold	Improvements	25,000
Beech Grove	New Plant	588,528
Bedford	New Plant	1,900,000
Chesterfield	New Plant	65,000
Crane, Naval Ammunition Depot Housing	Enlargement	40,000
Elkhart	Interceptors	242,984
	Interceptor	596,428
Flora	New Plant	485,000
Franklin	Improvement	442,138
	Interceptor	150,000
Hagerstown	Improvements	83,000
Indianapolis	Additions	$ 2,034,000
East 37th Street	Interceptor	923,172
First National Motels, Inc.	New Plant	28,000
Jeffersonville	New Plant	2,350,000
Muncie	Enlargement	3,038,709
New Carlisle	New Plant	110,000
Valparaiso	New Plant	725,000
Iowa		
Breda	Enlargement	1,000
Clear Lake San. District	New Plant	582,769
Hull	Replacement	110,298
Laurens	New Plant	123,100
New Sharon	Addition	50,000
Newton	Additions	395,500
Reinbeck	Replacement	95,550
Winterset	Improvements	29,948
Kansas		
Concordia	New Plant	300,000
Clay Center	New Plant	200,000
Eudora	New Plant	36,344
Haysville	New Plant	72,190
Hays	Enlargement	232,000
Junction City	New Plant	250,000
Kensington	New Plant	70,000
Lenexa	New Plant	98,346
Larned, State Hospital	New Plant	147,398
Maize	New Plant	60,000
Olathe, Naval Air Station Housing Project	New Plant	35,000
Oswego	New Plant	125,000
Parsons	Enlargement	362,546
Palco	New Plant	50,000
Potwin	New Plant	49,900
Russell	Additions	225,000
Shawnee Township Sewer Dist. #5	New Plant	127,000
St. Marys	Improvement	19,500
Topeka, East Side Plant	Improvements	61,500
Wellington	Addition	62,681
Wakefield	New Plant	21,000
Wichita	Interceptor	1,399,975

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Kentucky		
Harrodsburg	Enlargement	$ 3,150
La Center	New Plant	61,880
Mayfield	Replacement	345,900
Princeton	Replacement	218,000
Louisiana		
Lafayette Parish School	New Plant	6,997
Lake Charles, Air Force Base	Enlargement	5,860
Maine		
Limestone Air Force Base	New Plant	291,646
Maryland		
Annapolis	Enlargement	53,881
Bel Air	Additions	173,883
Baltimore, Back River Sewage Plant	Improvement	2,398
Carderock, David Taylor Model Basin	Additions	28,000
Flintstone, School	New Plant	---
Frederick	Enlargement	100,000
Havre De Grace, High School	New Plant	27,355
Indianhead, Naval Powder Factory	New Plant	17,968
Laurel, Johns Hopkins University Bldg.	New Plant	100,000
Massachusetts		
Barnstable, School	New Plant	4,221
Fall River	Interceptors	534,520
Kingston, School	New Plant	35,000
Kingston	New Plant	15,000
Petersham School	Enlargement	30,000
Sturbridge School	New Plant	15,000
Salem-Peabody	Interceptor	500,000
Worcester	Interceptors	267,000
Wrentham State School	Addition	8,000
Michigan		
Benton Harbor-Berrien	Interceptor	$ 64,309
East Tawas	Additions	11,140
Flint	Additions	987,000
Gogebic County, Grand View Hospital	Replacement	37,950
Gladwin	New Plant	155,693
Grand Rapids	New Plant	120,000
	Addition	532,165
Hastings	Enlargement	144,913
Kalamazoo	New Plant	2,979,938
Marysville	New Plant	216,665
Middle Rouge Project including: Canton, Dearborn, Nankin, Northville, Plymouth, Redford, Garden City, Livonia, Wayne	New Plant	3,425,000
Milan	New Plant	258,602
Vassar	New Plant	537,292
Minnesota		
Ah-Gwah-Ching State Hospital	Additions	---
Mountain Iron	New Plant	139,000
Ashby	New Plant	59,804
Black Duck	New Plant	85,000
Brownsdale	New Plant	50,400
Beaver Bay Townsite	New Plant	---
Chisholm	New Plant	274,590
Delano	New Plant	265,591
Edina	Interceptor	111,738
Glencoe	New Plant	303,678
Hallock	New Plant	123,000
No. St. Paul	Interceptor	278,582
Richfield	Interceptor	1,400,000
Stewartville	Improvement	3,690
Swift, Consolidated School	New Plant	5,665
Sherburn	New Plant	108,850
White Bear Lake	Replacement	201,000
Wheaton	New Plant	147,155

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Mississipri		
Gloster	New Plant	$ 43,500
Oktibbena, Miss. State College	New Plant	221,513
Rosedale	New Plant	54,921
Missouri		
Bolling Heights Subdivision	New Plant	37,000
Bolivar	Enlargement	106,000
Crane	New Plant	43,300
Dexter	Addition	183,341
Eldorado Springs	Additions	98,560
Fulton	Improvement	132,224
Hickman Mills, Dist. #3	New Plant	15,500
Kansas City	Enlargement	34,108
Lees Summit	New Plants	392,000
Odessa	New Plant	100,000
Portageville	New Plant	164,800
Republic	New Plant	55,967
Ruskin Heights Subdivision	New Plant	210,699
Warrensburg	New Plants	598,864
Montana		
Hamilton	New Plant	127,855
Lavina	New Plant	10,500
Plentywood	New Plant	60,000
Nebraska		
Cairo	New Plant	35,702
Kimball	Additions	72,850
Shickley	New Plant	34,000
Waterloo	New Plant	26,100
Nevada		
Elko	Enlargement	200,000
Las Vegas	Enlargement	40,000
New Hampshire - None reported		
New Jersey		
Bergenfield-Dumont	Improvement	1,490
Cape May	Outfall	29,940
Camden	Interceptor	595,525
Clinton, Reformatory for Women	New Plant	16,070
Delaware Township	Improvements	$ 34,950
Fort Lee	Interceptor	123,400
Matawan	Enlargement	22,000
New Jersey Turnpike Area 4N	Interceptor	78,876
Areas 1S and 1N	New Plant	161,300
Newton	Additions	111,442
New Providence, River Gardens Terrace Ct.	New Plant	22,740
Palmyra	Additions	212,384
Runnemede	New Plant	247,298
Salem	Replacement	274,953
Wrightstown, McGuire Air Force Base	New Plant	668,679
Woodbridge Township	New Plant	3,477,248
New Mexico		
Artesia	Improvements	89,470
Albuquerque	Enlargement	1,306,317
Blanco, El Paso Natural Gas Co.Plant	New Plant	4,000
Bluewater, El Paso Natural Gas Co. Sta.	New Plant	2,500
Anaconda Copper Mining Co. Townsite	New Plant	15,000
Gallup, El Paso Natural Gas Co. Townsite	New Plant	3,000
Las Cruces	Enlargement	212,928
Lincoln, El Paso Natural Gas Co. Townsite	New Plant	2,500
Las Cruces	New Plant Lift Station	29,500
Lea County, El Paso Natural Gas Co., Plant #4	New Plant	2,500
Portales	Enlargement	60,000
San Jon	New Plant	35,000
San Juan Co., El Paso Natural Gas Co., Kutz Station	New Plant	2,000
Santa Rita	New Plant	20,000
Truth or Consequences	Additions	5,000
Tularosa	New Plant	55,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
New York		
Albion	Enlargement	$ 90,000
Redford Hills, Westfield State Farm	Additions	177,114
Binghamton	Interceptor	710,130
Cheektowaga, Plant #5	Enlargement	76,600
Cheektowaga	Enlargement	286,750
Dannemora, Clinton Prison	Improvements	25,975
Grand Island, East River Plant	Enlargement	100,000
Gowanda	Interceptor	212,000
Kings Park, State Hospital	Improvements	6,300
Nassau County	Interceptor	1,346,540
New York City		
Bowery Bay Plant	Interceptor	13,708,325
Coney Is. Plant	Improvement	6,338
Harts Is. Plant	Improvements	7,986
Oakwood Beach Plant	Interceptors	2,738,238
Port Richmond Plant	Improvement	75,200
Tallman's Island Plant	Improvements	17,028
North Tonawanda	New Plant	891,028
Onondaga	New Plant	13,000
Port Washington, Navy Special Devices Center	New Plant	49,390
Rome, State School	Improvement	50,596
Rome	Interceptor	79,000
Ramapo Town, Summit Park Sanitarium	New Plant	48,000
Spring Valley	Additions and Improvements	275,000
Schenectady	Interceptor	26,895
South Dayton, Pine Valley Central School District	New Plant	5,196
Upper Nyack	New Plant	69,852
Westchester Co., Blind Brook Project	Interceptors	333,000

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
North Carolina		
Charlotte, Sugar Creek Plant	Enlargement	$ 1,318,409
Durham, Northside Plant	Enlargement	1,945,488
Elon College	New Plant	49,647
Granite Falls	Enlargement	37,000
Jacksonville	Enlargement	349,431
Duplin County, Kenansville Hospital	New Plant	32,200
McCain, Sanatorium	New Plant	182,132
Samarand, State School	Addition	22,000
Salisbury	Addition	250,267
Swansboro	New Plant	110,422
North Dakota		
Bisbee	New Plant	5,000
Beach	New Plant	20,000
Golva	New Plant	12,127
Jamestown	New Plant	350,000
Maddock	Addition	3,400
Medina	New Plant	5,000
Rolette	New Plant	20,000
Watford	New Plant	40,000
Ohio		
Bedford	Addition	357,000
Cincinnati	Outfall	1,650,000
Cleveland, Cuyahoga Hts., sly plant	Improvement	2,127,060
Cambridge	Interceptor	915,858
Dayton	Enlargement	874,000
East Canton, Osnaburg Schl. Dist.	New Plant	22,390
Findlay	Enlargement	687,891
Galion	Addition	246,532
Hiram	Enlargement	44,622
Hubbard	Enlargement	187,521
Lawrence	New Plant	566,892
Kirtland, School District	New Plant	10,000
Kent	Enlargement	210,100
Lodi	Addition	38,741
Lima	Enlargement	1,177,533

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Ohio (Cont.)		
Lexington	New Plant	$ 63,000
Lorain County, Elberta Beach Subdivision	New Plant	62,000
Logan	New Plant	259,496
Miamisburg	New Plant	329,252
New Lebanon	New Plant	53,290
Ottawa	New Plant	292,560
Oakhill	Addition	95,000
Pike County, Atomic Energy Site	New Plant	214,000
Richwood	Addition	42,950
Shelby	Replacement	550,428
St. Paris	New Plant	72,441
Toledo, Airport	New Plant	55,722
Vandalia	Improvement	93,004
Westerville	Enlargement	242,420
Wilmington	Addition	176,054
Oklahoma		
Altus, Air Force Base	Improvement	37,400
Ardmore	Enlargement	249,000
Alva	New Plant	135,000
Bartlesville	New Plant	452,629
Woodland Pk.Addn.	New Plant	15,000
Washington Co. Sewer District	New Plant	95,000
Bethany	Enlargement	128,631
Clinton	Enlargement	130,000
Cardin	New Plant	7,500
Collinsville	New Plant	68,000
Duncan	New Plant	291,167
Fairland	New Plant	72,091
Marlow	Enlargement	79,415
Pryor	Interceptor and Outfall	75,000
Pawhuska	Enlargement	94,446
Quapaw	New Plant	37,000
Sapulpa	New Plant	292,856
Talihina, Bureau Indian Affairs Medical Center	Addition	24,900
Tonkawa	New Plant	100,000
Tulsa	Improvement	26,500
Turkey Sewage Disp. Plant	New Plant	831,672
51st St. Plant	New Plant	380,977
Oregon		
Albany	Interceptor	$ 41,477
Coos Bay	Interceptor	329,922
Coos County, 761st AC & W Squadron	New Plant	33,937
Coquille	New Plant	223,598
Grants Pass	Addition	63,004
Klamath Falls, Co. Nursing Home	New Plant	13,913
Lebanon	Addition	44,991
	New Plant	219,569
Myrtle Point	New Plant	141,771
North Bend	New Plant	131,716
Pump station	Interceptor	57,330
Portland		
Yeon Ave.	Interceptor	67,600
West Central	Interceptor	531,219
Pump stations	Interceptor	67,400
West Central from Yeon to Northwest Front	Interceptor	983,849
Southwest	Interceptor	656,747
Springfield	New Plant	221,586
Tualatin Hills Sanitary Dist.	New Plant	55,951
Pennsylvania		
Allentown	Interceptor	501,910
Altoona	New Plant	1,436,657
Brighton Township	New Plant	87,436
Bethel	Interceptor	43,300
Central Delaware Co. Authority	Outfall	82,920
Dunlap Creek Village, owned by Housing Authority of Fayette County	New Plant	---
Bristol Township, High School	New Plant	---
Dover, Elementary School	New Plant	2,990
Dixmont	New Plant	133,000
Evans	Addition	56,291
Jersey Shore	New Plant	316,609
Johnsonburg	Improvement	7,640
Lock Haven	New Plant	330,938
Lewistown	New Plant	725,753
Lower Providence Township, Elementary School	New Plant	10,658

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Pennsylvania (Cont.)		
Mars	Enlargement	39,560
Moon Run Township, High School	New Plant	62,700
Morgan, owned by Housing Authority of Alleghany Co.	New Plant	---
Mifflin	New Plant	272,500
Muncy	New Plant	125,296
Northumberland	New Plant	202,805
Pottstown	Improvement	4,897
Philadelphia, West Side	Interceptor	1,381,650
Lower Delaware	Interceptor	3,417,435
Southwest Sewage Treatment Works to Delaware River	Outfall	1,043,657
Central Schuykill East Side	Interceptor	946,460
Pauls Run	Interceptor	42,407
Reading	Addition	338,498
South Connellsville	Interceptor	15,083
Williamsport, Central sewage treatment plant	New Plant	1,728,315
West Sewage treatment plant	New Plant	1,533,475
Waynesburg	Addition	190,300
Washington and East Washington	Enlargement	1,848,165
Rhode Island		
East Providence	Improvement	48,149
Narragansett, State Beach	Improvement	1,987
Newport, joint project Navy & City	Interceptor & Outfall	976,871
South Carolina		
Aiken	Enlargement	328,321
Beaufort, Paris Island Marine Corps Recruit Depot	Enlargement	99,897
Spartanburg	Improvement	12,959
Williston	New Plant	105,516
Winnsboro	New Plant	200,000
South Dakota		
Arlington	Addition	$ 15,500
Burke	New Plant	10,000
Chamberlain	New Plant	90,000
Hill City	New Plant	30,000
Kodoka	New Plant	8,000
Madison	Enlargement	195,000
New Effington	New Plant	17,000
Philip	New Plant	20,000
Spencer	Enlargement	22,800
Sioux Falls	Enlargement	65,000
Veblen	Enlargement	15,000
Tennessee		
Bristol, owned by U.S. Navy	New Plant	---
Chattanooga	Interceptor	1,665,602
Dyersburg	New Plant	230,000
Dickson	Enlargement	297,000
Frayser, Memphis Suburban Utility District	Interceptor and Outfall	194,153
Knox Co., Cambria Range Station	New Plant	44,202
Knoxville	2 New Plants	5,810,093
Lupton	New Plant	---
Millington	New Plant	260,190
Nashville	Interceptor	1,144,000
Paris	New Plant	341,125
Texas		
Austin	Enlargement	179,000
Athens	Replacement	106,000
Big Lake	New Plant	57,000
Baytown	New Plant	271,745
Beaumont	New Plant	2,405,000
	Interceptor	774,608
	Improvement	278,793
Copperas Cove	New Plant	33,420
Fort Worth	Addition	172,700
Greenville	Enlargement	148,955
	Outfall	91,639
Gonzales	New Plant	20,000
Gregory	New Plant	75,000
Gladewater	New Plant	87,275
Galveston	New Plant	2,203,428

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Texas (Cont.)		
Houston, Airport Terminal, owned by City of Houston	New Plant	$ 9,080
Harris County, WCID #26	Addition	7,939
Houston Sims Bayou	Enlargement	358,121
Ingleside	Addition	133,923
Kemah	New Plant	50,028
Mt. Pleasant	Enlargement	38,000
New Zapata Townsite, Owned by International Boundary and Water Comm., U.S. and Mex.	New Plant	45,000
Odessa	Outfall	210,217
Pasadena	Enlargement	54,000
Seguin	Enlargement	41,267
Vidor	New Plant	70,000
Vernon	New Plant	188,848
Victoria	Enlargement	490,508
	Interceptor	368,279
Whiteface	New Plant	100,983
Weatherford	New Plant	205,500
Weslaco	Outfall	66,401
Weatherford	Outfall	25,696
Waco, Air Force Base	Enlargement	107,174
Utah		
Murray	New Plant	404,541
South Salt Lake	New Plant	265,000
Vermont		
Waterbury, State Hospital	New Plant	107,000
Virginia		
Amherst	New Plant	35,649
Bedford	New Plant	397,000
Catawba Sanatorium	Addition	44,000
Chincoteague, Naval Air Test Station	Enlargement	360,749
Clarksville	New Plant	146,500
Covington, Parish Court	New Plant	$ 726,320
Dillwyn	New Plant	74,839
Hillsville	New Plant	106,391
Kenmore Ridge	New Plant	24,984
Rustburg	New Plant	5,900
Washington		
Buckley, Rainier State School	New Plant	94,850
Buckley	New Plant	61,950
College Place	New Plant	199,850
Endicott	New Plant	67,960
Lind	New Plant	74,173
Longview	New Plant Equipment	23,862
Moxee City	New Plant	44,375
Othello	New Plant	107,449
Pasco	New Plant	225,167
Paine Air Force Base	Enlargement	25,000
Pasco	Improvement	22,951
Renton	Enlargement	67,208
	Improvement	29,885
Spokane	New Plant	66,368
Toppenish	New Plant	219,012
Winslow	New Plant	18,823
Walla Walla	Addition	399,248
Zillah	Enlargement	47,140
West Virginia		
Fayetteville	New Plant	85,000
Princeton	New Plant	142,342
St. Albans	Interceptor	153,300
Weirton	2 New Plants	234,931
Wisconsin		
Altoona	Interceptor	117,878
	New Plant	72,703
Albany	New Plant	47,000
Bagley	New Plant	19,000
Glenbeulah	New Plant	36,237
Hustisford	New Plant	60,048

STATE AND PLACE	TYPE OF CONSTRUCTION	COST
Wisconsin (Cont.)		
Monroe	Enlargement	$ 6,448
Mondovi	New Plant	181,022
Mauston	New Plant	138,000
New Holstein	New Plant	106,232
New London	New Plant	217,119
New Richmond	Replacement	179,556
Palmyra	New Plant	84,850
Pleasant Prairie, Grade School	New Plant	3,190
Randolph	Replacement	73,442
Tomahawk	New Plant	224,325
Theresa	New Plant	41,000
Valders	Replacement	45,883
Weyerhauser	New Plant	19,000
Wales	New Plant	53,000
Watertown	Replacement	562,280
Wyoming		
Rock Springs	New Plant	$ 398,244
Sundance	New Plant	15,000
Totals for U. S.	329 New Plants 286 Other 615 Total	$190,919,708

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